

Regional Haze Best Available Retrofit Technology and Reasonable Progress

The following identifies an option for EPA implementation of Best Available Retrofit Technology (BART) based on an approach similar to the Cross State Air Pollution Rule (CSAPR) as well as a possible expanded approach for reasonable progress purposes.

Coal-Fired BART Units

Sulfur Dioxide (SO₂) BART

BART-subject coal-fired electric generating units (EGUs) would comply with mass-based source or system caps that would be equivalent to the SO₂ allocations the units received under the CSAPR, as outlined in Table 1.

- A source cap would apply to all the BART-subject sources located at a given site.
- A system cap would apply to all the BART-subject sources at one or more sites under common ownership and control.
- An intrastate trading option would also allow companies to trade between sites or systems within Texas.

The EPA has already determined that CSAPR is better than BART, and the approach, while not applying to all EGUs that were subject to CSAPR, would apply to the majority of SO₂ emissions from EGUs in Texas (see Table 3 below). Furthermore, approximately 70% of the SO₂ emissions from the BART-subject sources come from sources that the EPA previously determined had significant visibility impacts for purposes of reasonable progress (Coletto Creek, Big Brown, Martin Lake, and Monticello). Therefore, the EPA's CSAPR-better-than-BART determination should satisfy the requirement that BART alternatives show greater reasonable progress under this approach, particularly if this strategy is combined with the reasonable progress option described below.

Table 1: BART-Subject Coal-Fired EGU SO₂ Allocations and 2016 Emissions

| Company | Site | Annual Allocation ¹ (tons) | 2016 Emissions (tons) |
|------------------------------|---|--|--------------------------|
| AEP | Welsh Power Plant (Units 1 & 2 ²) | 13,546 | 6,005 |
| CPS Energy | JT Deely (Units 1 & 2) | 12,252 | 7,625 |
| Dynegy | Coletto Creek (Unit 1) | 9,057 | 8,231 |
| LCRA | Fayette/Sam Seymour (Units 1 & 2) | 15,998 | 877 |
| Luminant | Big Brown (Units 1 & 2) | 17,032 | 42,470 |
| | Martin Lake (Units 1 - 3) | 35,840 | 25,471 |
| | Monticello (Units 1 - 3) | 29,609 | 24,958 |
| | Luminant Subtotal | 82,481 | 92,899 |
| NRG | WA Parish (Units WAP5 & WAP6) | 18,480 | 21,839 |
| Xcel | Harrington (Units 061B & 062B) | 10,616 | 8,869 |
| Total All BART-Subject Units | | 162,430 | 146,345 |

Nitrogen Oxides (NO_x) BART

Texas' participation in the Ozone Season NO_x CSAPR Program satisfies NO_x BART for the BART-subject units.

¹ EPA CSAPR allocations after tolling: https://www.epa.gov/sites/production/files/201605/unitlevelallocations_tolled-2.xls. Allocations DO NOT INCLUDE allowances distributed to existing units from the New Unit Set Aside (NUSA) pool after allocation to new units. Including NUSA allowances would increase allocations by approximately 3.5%; however, the amount of NUSA allowances distributed to these units is variable, changing year-to-year. Red indicates the source or system allocation is deficit to the 2016 emissions.

² Welsh Unit 2 was BART eligible and would have been subject to BART if the unit had not been retired in April 2016. Welsh Unit 2 is included to allow AEP to take credit for the shutdown.

Particulate Matter (PM) BART

The EPA's interpretation of the July 19, 2006 guidance memorandum regarding BART determinations is not correct and the TCEQ's original SIP submittal screening out PM from all fossil fuel-fired EGUs for BART purposes should be approved by the EPA. The memorandum does not state that pollutant-specific screening for PM is only allowed under BART alternatives; it only provided the situation of a state relying on the Clean Air Interstate Rule as an example where pollutant-specific screening may be appropriate. Regardless, the approach proposed above for SO₂ BART and the Ozone Season NO_x CSAPR Program are BART alternatives. Therefore, the EPA's interpretation of the 2006 memorandum is not applicable under this suggested alternative to source-specific BART. See TCEQ's comments dated May 5, 2017 for additional detail.

Gas-Fired and Gas/Oil-Fired BART Units

While the gas-fired and gas/oil-fired BART-subject EGUs could be incorporated into the above approach for SO₂, the SO₂ allocations and emissions associated with these units are inconsequential compared to the coal-fired units. The fuel restrictions may be a more practical approach for satisfying SO₂ BART on these units. Texas' participation in the Ozone Season NO_x CSAPR Program satisfies NO_x BART for these units.

Combined BART/Reasonable Progress

A limited expansion of the SO₂ approach outlined above for coal-fired BART units may be supportable for reasonable progress purposes. In the EPA's 2016 Regional Haze Reasonable Progress Federal Implementation Plan (FIP), the EPA identified certain coal-fired EGUs as having significant contributions for visibility impacts. Nine of the 15 units subject to the EPA's reasonable progress FIP are BART-subject units. The BART approach above could be modified to include the non-BART units from the reasonable progress FIP. This expanded approach would use source or system caps for the BART-subject EGUs (Table 1) and the non-BART EGUs subject to the EPA's 2016 reasonable progress FIP (Table 2), and would allow companies to trade between source or system caps via an intrastate trading program.

Table 2: Non-BART Coal-Fired EGUs under Reasonable Progress FIP, SO₂ Allocations and 2016 Emissions

| Company | Site | Annual Allocation ¹ (tons) | 2016 Emissions (tons) |
|---------------------------------|----------------------------------|--|--------------------------|
| Luminant | Sandow (Unit 4) | 8,370 | 12,105 |
| NRG | Limestone (Units 1 & 2) | 24,374 | 20,801 |
| San Miguel Electric Cooperative | San Miguel (Unit 1) | 6,271 | 6,815 |
| Xcel | Tolk Station (Units 171B & 172B) | 13,962 | 14,977 |
| Total All Units | | 52,977 | 54,698 |

Table 3: Combined BART and Reasonable Progress EGUs, SO₂ Allocations and 2016 Emissions

| Approach | Annual Allocation ¹ (tons) | 2016 Emissions (tons) | % of Total Texas EGU Emissions |
|------------------------------------|--|--------------------------|--------------------------------|
| BART Coal-Fired Units | 162,430 | 146,345 | 60% |
| Non-BART Reasonable Progress Units | 52,977 | 54,698 | 22% |
| Combined Total | 215,407 | 201,043 | 82% |
| Total Texas EGU Emissions | | 245,737 | |